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EXAMINER

PARKER, FREDERICK JOHN

ART UNIT PAPER NUMBER

1762

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,176

Applicant(s)

BOUESNARD ET AL.

Examiner

Frederick J. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 13, 15-18, 26 and 29-49 is/are pending in the application.
- 4a) Of the above claim(s) 34-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 15-18, 26, 29-33 and 38-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8-16-06; 5-26-05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-4,13,15-18,26,29-33,38-49 in the reply filed on 10-27-06 is acknowledged. The traversal is on the ground(s) that the restriction failed to demonstrate undue burden of searching all three groups which encompassed a coating method, article, and composition. This is not found persuasive because of the reasons previously cited, which clearly define a proper restriction. Further, while the presence of multiple inventions would necessarily, in and of itself, cause an undue burden on the Examiner because of the excessive time required to perform searches of different inventions; however, the burden on the Examiner extends to PATENTABILITY ISSUES associated with, and evolving from, searching for multiple different inventions. Issues related to one statutory class are generally very different from those of other statutory classes. That is, issues arising from method claims would potentially be very different from those of article or composition claims, and may require complex evidence to resolve critical issues which would be dissimilar and unfamiliar to an Examiner in an unrelated art area. Hence, the examination of multiple inventions, in this case directed to method, article, and composition represents a serious and undue burden on the Examiner because of excessive and non-overlapping searches, and the evolution of complex and unfamiliar patentability issues related to examining multiple and distinct inventions. Restriction is therefore proper under the guidelines of MPEP 803. The requirement is still deemed proper and is therefore made FINAL.

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Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract is too generic and not indicative of the inventive subject matter.

4. The disclosure is objected to because of the following informalities: page 9, in three instances, specific claims are referred to in the specification which is improper because claims any be amended or cancelled through prosecution. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1,38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 1,38 are vague and indefinite because it is unclear to what or under what conditions the solid masking particle must be “inert”.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1,4,15,29,30,31 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kennedy US 2559969.

Kennedy teaches a method of selectively coating glass surfaces in which a maskant agent comprising inert inorganic particles, e.g. feldspar, is applied to glass, a coating film such as CdO, TiO₂, ZnO, etc applied, and the maskant removed by water washing to reveal a patterned coating on the glass. Col. 2, 15-20; col. 3, 11-72. Since the process takes place at ambient conditions, including temperature, between maskant application and subsequent coating, at least a minimal

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amount of water evaporation/ drying inherently occurs per claim 29. The coating materials disclosed inherently control solar transmission per claim 30.

9. Claims 1,2,4, ~~13~~,15, 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Forker US 3932681.

Forker teaches coating selected portions of glass and ceramic substrates comprising (1) applying a maskant agent comprising particulates over portions of the substrate not to be coated (col. 2, 18-34); (2) applying a coating material to the coated substrate; and (3) removing the masking by application of water (col. 3, 35-39 and elsewhere) to expose selected coated portions of the substrate. See also example. Maskant particulates include metal oxides, silica glasses, or other mixtures which are thermally stable (i.e. "inert"). Since the process takes place at ambient conditions, including temperature, between maskant application and subsequent coating, at least a minimal amount of water evaporation/ drying inherently occurs per claim 29. Substrates may be ceramics or glass (col. 2, 35-38), per claim 31. Tin oxide coatings are disclosed which inherently control solar transmission per claim 30.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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11. Claims 1,4,15, 18,26,29,38,39,40,41,44 are rejected under 35 U.S.C. 102(e) as being anticipated by Rossi US 6521541 (EFD 8-23-00).

Rossi teaches to selectively coated portions of a semi-conductor substrate by applying a crystalline colloid maskant layer of, for example, inorganic materials such as silica, on the substrate in the form of an aqueous sol, at least minimally drying the maskant layer, applying a coating to the particle masked and unmasked portions of the substrate to provide well-developed nanostructures, and then removal of the masking material by sonication in water. See Example, col. 3, 29-54. The reference further teaches to utilize particles of about 30-2500nm to form a crystalline masking array wherein the particles are within a standard deviation of about 1% of particle diameter, col. 4, 15-29. Rossi teaches applying coatings in vacuum using vapor deposition methods (see example, etc) per claims 18,26

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1-4,15, 29-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Boaz US 4477486.

Boaz teaches a method of selectively coating glass sheet surfaces in which a maskant agent comprising inert inorganic particles (alumina, calcium carbonate (an AE carbonate per claim 3), zirconia, silica, silicates (encompassing enamel silicates), etc see col. 5, 8-24) is selectively applied to the glass; the masked glass is then coated with a ceramic composition which would inherently be solar-controlling per claim 30; and then the maskant material is removed by washing which inherently and by definition includes water and other solvents. Alternatively it would have been obvious to use water as the washing liquid because water is commonly used for washing by virtue of its safety, availability, and washing properties. Since the process takes place at ambient conditions / temperature, between maskant application and subsequent coating, at least a minimal amount of water evaporation/ drying inherently occurs per claim 29.

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16. Claims 17,32,33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker US 3932681.

Forker is cited for the same reasons discussed above. As to claim 17, the viscosity of the masking agent is neither stated nor limited. It is the Examiner's position that viscosity would have been optimized for a specific application method or end-use application, and therefore viscosity would have been an obvious determinable process parameter within the purview of one of ordinary skill. Forker is also not limited to which portions of a substrate are coated or masked such that the limitations of claim 32 simply are a matter of choice of the skilled artisan dependant upon the end-use application. Similarly, claim 33 represents a specific end-use application which would have been within the purview of one skilled in the art.

17. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker US 3932681 in view of Boaz.

Forker and Boaz are cited for the same reasons discussed above. Forker teaches a wide range of maskant particles but not an AE carbonate or silicate enamels. Boaz teaches the equivalence of metal oxide and silicate particles with calcium carbonate (an AE carbonate) and silicates (encompassing enamels) and hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Forker using the additional maskant particles of Boaz because they are taught to be successful equivalent maskant particles for the same purpose.

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18. Claims ¹³¹8,39,40,41,43,45-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker US 3932681 in view of Rossi US 6521541.

Forker and Rossi are cited for the same reasons discussed above. Forker is not limited to dimensions of the masked and unmasked portions and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Forker by substituting the colloidal maskant particles of Rossi for the maskant particles of Forker to provide well-developed nanostructure coatings of desired portions of a substrate.

19. Claims 16,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker US 3932681 or Boaz or Kennedy or Forker in view of Rossi, further in view of Turner et al US 4724011.

Forker, Boaz, Kennedy and Rossi are cited for the same reasons discussed above. Screen printing the masking agent is not taught. However, Turner et al teaches on col. 8, 68 bridging col. 9,5 that inorganic maskants are applied to substrates by screen printing prior to coating, after which the maskant is removed by a solvent wash step.


It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the processes of Forker or Boaz or Kennedy or Forker in view of Rossi by incorporating the screen printing means of Turner et al to apply the inorganic maskant material because Turner expressly discloses screen printing for applying similar solvent-removable masking materials prior to coating.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Frederick J. Parker
Primary Examiner
Art Unit 1762

fjp